



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/824,816

04/14/2004

Alexander Joffe

M-5648-2D US

6681

32605

7590

01/03/2008

MACPHERSON KWOK CHEN & HEID LLP
2033 GATEWAY PLACE
SUITE 400
SAN JOSE, CA 95110

EXAMINER

SPIELER, WILLIAM

ART UNIT

PAPER NUMBER

4141

MAIL DATE

DELIVERY MODE

01/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/824,816	Applicant(s) JOFFE ET AL.	
	Examiner WILLIAM SPIELER	Art Unit 4141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-13 and 30-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-13 and 30-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 11-13 and 30-40 are pending for examination.

Information Disclosure Statement

1. The information disclosure statement filed April 14, 2004 fails to comply with 37 C.F.R. 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

2. The information disclosure statement filed June 24, 2004 fails to comply with 37 C.F.R. 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

The drawings filed on April 14, 2004 are accepted.

Claim Objections

3. Claims 32, 34, 38 and 40 are objected to because of the following informalities: FIFO should be spelled out when it is the first time it is mentioned in a claim or its parent. Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11 and 13 are rejected under 35 U.S.C. § 102(b) as being anticipated by Bass et al., U.S. Patent No. 5,487,170 (hereinafter “Bass”).

As per claim 11, Bass teaches:

a plurality of resources (claim 8), a plurality of tasks (claim 8), and allocating each resource to the tasks so that after any one of the tasks has finished accessing any one of the resources, the task does not get access to the same resource until after every other one of the tasks has finished accessing the resource (claim 8) in a multi-tasking computer system.

Claim 13 is the method claim corresponding to the system claim 11, and is rejected under the same reason set forth in connection to the rejection of claim 11 above.

Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 4141

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12 and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bass et al., U.S. Patent No. 5,487,170 (hereinafter "Bass") in view of Bahr et al., U.S. Patent No. 5,167,022 (hereinafter "Bahr").

As per claim 12, the rejection of claim 11 is hereby incorporated, and further Bass does not teach that "for at least one resource, each task starts accessing the resource by locking the resource to make it unavailable to any other task, and the task finishes accessing the resource by unlocking the resource." The analogous art of Bahr teaches the use of a mutual exclusion lock - or mutex - to accomplish this task.

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Bahr into the method of Bass to use a mutual exclusion lock because one of the ordinary skill in the art would want to lock the resources in this manner by way of a mutex, which would serve to ensure that the system remains stable as resources are being accessed in a predictable manner in a multi-tasking computer system.

Claim 35 is the method claim corresponding to the system claim 12, and is rejected under the same reason set forth in connection to the rejection of claim 12 above.

7. Claims 30 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bass et al., U.S. Patent No. 5,487,170 (hereinafter "Bass") in view of Nakade et al., U.S. Patent No. 4,847,751 (hereinafter "Nakade").

As per claim 30, the rejection of claim 11 is hereby incorporated, and further Bass does not teach that “each data unit is processed by a single one of the tasks which accesses at least two of said resources to process at least one of the data units.” The analogous art of Nakade, however, does. (Abstract).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Nakade into the method of Bass because one of the ordinary skill in the art would access at least two resources (namely the processor and memory) to process a data unit.

Claim 36 is the method claim corresponding to the system claim 30, and is rejected under the same reason set forth in connection to the rejection of claim 30 above.

8. Claims 31-33 and 37-39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bass et al., U.S. Patent No. 5,487,170 (hereinafter "Bass") in view of Nakade et al., U.S. Patent No. 4,847,751 (hereinafter "Nakade") and Sheth et al., U.S. Patent No. 5,386,517 (hereinafter "Sheth").

As per claim 31, the rejection of claim 30 is hereby incorporated, and further neither Bass nor Nakade teach that at least two of the resources accessed are storage area. The analogous art of Sheth teaches that a data processing task may access both a storage buffer and a command queue (Col. 24, lines 31-46).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Sheth into the method of Nakade and Bass because one of the ordinary skill in the art would use the storage

Art Unit: 4141

buffers and command queues store data unit processing information of multiple data units, and that these storage areas could be accessed by a task, and that having storage areas would be of obvious utility in processing data units.

As per claim 32, the rejection of claim 31 is hereby incorporated, and the analogous art of Sheth teaches that a data processing task may access both a storage buffer and a command queue (Col. 24, lines 31-46). Sheth further teaches reading the request from the request FIFO (Col. 24, lines 34-35) and writing one or more commands to the command FIFO (Col. 24, lines 43-45).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Sheth into the method of Bass because one of the ordinary skill in the art would recognize that FIFOs are an easier form of data storage to implement a a simple queue/dequeue operation as opposed to more complicated pointers and references, and that these are of particular use in serially-transmitted data such as requests and associated commands

As per claim 33, the rejection of claim 32 is hereby incorporated, and further the analogous art of Sheth teaches that requests can be made to an address. (Col. 28, line 38).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Sheth into the method of Bass because one of the ordinary skill in the art that the address requested may be contained in the request as claimed, and that this would be a manner to encapsulate request information into a single object.

Claims 37-39 are the method claims corresponding to the system claim 31-33 respectively, and each is rejected under the same reason set forth in connection to the rejection of their corresponding claim above.

9. Claims 34 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bass et al., U.S. Patent No. 5,487,170 (hereinafter "Bass") in view of Nakade et al., U.S. Patent No. 4,847,751 (hereinafter "Nakade"), Sheth et al., U.S. Patent No. 5,386,517 (hereinafter "Sheth") and Djakovic, U.S. Patent No. 5,592,654 (hereinafter "Djakovic").

As per claim 34, neither Bass, Nakade nor Sheth teach receiving data units over a network, nor storing status information on reception of the data units over the network, nor reading status information from the status FIFO. The analogous art of Djakovic, however, teaches that data can be sent over a network (Col. 11, lines 28-30), storing status information on reception of the data units over the network in a status FIFO (Col. 11, lines 39-40) and reading that information (Col. 11, lines 39-40).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Djakovic into the teaching of Bass, Nakade and Sheth because one of the ordinary skill in the art would realize the benefit of attaching a multi-tasking computer system to a network, receiving data units over said network, and that a queue would be an effective means of organizing these received data units for sequential processing.

Claim 40 is the method claim corresponding to the system claim 34, and is rejected under the same reason set forth in connection to the rejection of claim 34 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM SPIELER whose telephone number is (571)270-3883. The examiner can normally be reached on Monday to Thursday, 9:30 AM - 3:00 PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chameli Das can be reached on (571) 270-1392. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/824,816
Art Unit: 4141

Page 9

William Spieler
Patent Examiner, AU 4141
January 2, 2008

/CHAMELI C. DAS/
Supervisory Patent Examiner, Art Unit 4141